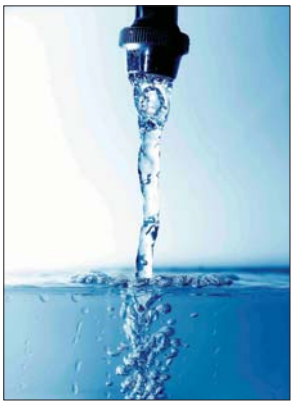
2010 Annual Water Quality Report

Troy Water – Drink it Up!



The majority of Troy's drinking water comes from the Lake Huron Water Treatment Plant located in Port Huron. A small percentage of Troy's water comes from the Northeast Water treatment plant in Detroit. Both water plants are operated and owned by the Detroit Water and Sewerage Department (DWSD). DWSD filters and treats the raw water at the plants before releasing the water into the pipes that deliver water to Troy. There are six main connections with master water meters spread out along Troy's borders that supply water to the City. At these points of connection, the DWSD distribution system ends and Troy's system begins.

Troy maintains 500 miles of water main, over 5,300 hydrants, six master meter facilities, and more than 26,000 water meters serving our 81,000 residents, businesses and public facilities.

Troy residents consume approximately three billion gallons of water per year. Our goal is to provide a safe, healthy water supply with quality service to our customers.

For convenience, you may choose to use the free Direct Payment service for your water bill. The City continues sending a billing statement, but payments are automatically deducted from your account on the due date. For information or an application, call the Treasurer's office at 248.524.3333.

If you have questions about Troy's water service or would like a copy of this report, please contact the Department of Public Works at 248.524.3370.

The Source of our Water

The majority of Troy's source water comes from the lower Lake Huron watershed. The watershed includes numerous short, seasonal streams that drain to Lake Huron. A small percentage of Troy's source water comes from the Detroit River, situated within the Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River in the U.S. and part of the Thames River, Little River, Turkey Creek, and Sydenham watersheds in Canada. The MI Dept. of Natural Resources & Environment in partnership with the U.S. Geological Survey, the DWSD, and the MI Public Health Institute performed a source water assessment to determine the susceptibility of potential contamination.

The susceptibility rating is a seven-tiered scale ranging from moderately low to very high based primarily on geologic sensitivity, water chemistry, and contaminant sources. The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards. The susceptibility of our Detroit River source water intakes were determined to be highly susceptible to potential contamination. However, all four Detroit water treatment plants that use source water from the Detroit River have historically provided satisfactory treatment of this source water to meet drinking water standards.

What's in our Drinking Water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at 800.426.4791.

The sources of drinking water (both tap and bottled) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and sometimes, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. **Contaminants** that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

To ensure tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. The State and EPA require us to test our water on a regular basis to ensure its safety. We met all monitoring and reporting requirements for 2010.

Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immuno-compromised people, such as those undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk of infection. These people should seek advice about drinking water from their health care providers.

EPA/Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800.426.4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Troy Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.

When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Lake Huron Water Treatment Plant and Northeast Water Treatment Plant 2010 Regulated Detected Contaminants

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Inorganic Chemicals - Annual Monitoring at Plant Finished Water Tap								
Fluoride	8/31/09	ppm	4	4	1.40 1.13	0.56-1.40 080-1.13	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate	8/31/09	ppm	10	10	0.32 0.25	n/a	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium	6/9/08	ppm	2	2	0.01	n/a	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Selenium	6/9/08	ppb	50	50	1 1	n/a	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Disinfectant Residuals and Disinfection By-products - Monitoring in Distribution System, Based on a Running Annual Average								
TTHM	2/09-11/09	ppb	n/a	80	18.5, 23.1	9.2-40.1, 9.8-26.5	No	By-product of drinking water chlorination
HAA5	2/09-11/09	ppb	n/a	60	10.1, 10.2	6.0-17.1, 4.7-18.6	No	By-product of drinking water disinfection
Disinfectant (total chlorine residual)	1/09-12/09	ppm	MRDLG 4	MRDL 4	0.78 0.68	0.70-0.88 0.56-0.78	No	Water additive used to control microbes

2009 Turbidity - Monitored every Four Hours at Plant Finished Water Tap

Highest Single Measurement Cannot exceed 1 NTU	*Lowest Monthly % of Samples Meeting Turbidity Limit of .3 NTU (minimum 95%)*	*Violation*	*Major Sources in Drinking Water*
0.09 NTU, 0.20 NTU	100%	No	Soil runoff

Purple ink results are for Lake Huron Water Treatment Plant. Orange are for Northeast Water Treatment Plant. Black are for both.

Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

2009 Microbiological Contaminants - Monthly Monitoring in Distribution System

Contaminant	*MCLG*	*MCL*	*Highest No. Detected*	*Violation*	*Major Sources in Drinking Water*
Total Coliform	0	Presence of Coliform bacteria > 5% of monthly samples	in 1 month - 0	No	Naturally present in the environment
E.coli or fecal coliform bacteria	0	A routine sample and repeat sample are total coliform positive, and one is also fecal or E.coli positive	entire year - 0	No	Human waste & animal fecal waste

2008 Lead and Copper Monitoring at Customers' Tap

Contaminant	*Test Date*	*Units*	*Health Goal MCLG*	*Action Level AL*	*90th Percentile Value**	*# of Samples Over AL*	*Violation*	*Major Sources in Drinking Water*
Lead	2008	ppb	0.0	15	7.2	1	No	Corrosion of household plumbing system; erosion of natural deposits
Copper	2008	ppm	1.3	1.3	0.062	0	No	Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives

**The 90th percentile value means 90% of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.*

Regulated Contaminant	*Info*	*Typical Source of Contaminant*
Total Organic Carbon (ppm)	The TOC removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each month and because the level was low, there is no requirement for TOC removal.	Erosion of natural deposits

2009 Special Monitoring

Contaminant	*MCLG*	*MCL*	*Level Detected*	*Source of Contamination*
Sodium (ppm)	n/a	n/a	4.45, 4.61	Erosion of natural deposits

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants. Beginning July 2008-April 2009, the Detroit Water and Sewerage Department (DWSD) began monitoring quarterly for unregulated contaminants under the Unregulated Contaminant Monitoring Rule 2 (UCMR2). All the UCMR2 contaminants monitored on List 1 and List 2 in 2008-2009 were undetected.

We invite public participation in decisions that affect drinking water quality.

The *Detroit Board of Water Commissioners* holds regular, public meetings at 2 pm on the 4th Wednesday each month at 735 Randolph Street in Detroit. You may call 313.224.4800 for information and to confirm meeting dates and times.

For more information about your water, or the contents of this report, contact the *Troy Department of Public Works* at 248.524.3370.

For more information about safe drinking water, visit the *US Environmental Protection Agency* at *www.epa.gov/safewater/*.

This annual report will provide information on any problems that may occur throughout the year. Copies are available at City Hall, 500 W. Big Beaver and the Troy Community Center, 3179 Livernois. Request a copy by calling 248.524.3370.

Glossary of terms

n/a - Not applicable > - Greater than ND > - Not detected

MCLG (Maximum Contaminant Level Goal) - The level of contaminant in drinking water below which there is no known expected risk to health.

MCL (Maximum Contaminant Level) - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MRDLG (Maximum Residual Disinfectant Level Goal) - The level of a drinking water disinfectant below which there is no known or expected risk to health. It does not reflect the benefits of the use of disinfectants to control microbial contaminants.

MRDL (Maximum Residual Disinfectant Level) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

ppb (Parts per billion) - One ppb is equivalent to one microgram per liter. A microgram = 1/1000 milligram.

ppm (Parts per million) - One ppm is equivalent to one milligram per liter. A milligram = 1/1000 gram.

NTU (Nephelometric Turbidity Units) - Turbidity is a measure of the cloudiness of the water.

TT (Treatment Technique) - A required process intended to reduce the level of a contaminant in drinking water.

AL (Action Level) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which the water system must follow.

HAA5 (Haloacetic Acids) - The total of bromoacetic, chloracetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.

TTHM (Total Trihalomethanes) - The sum of chloroform, bromodichloromethane, dibromochloromethane, and bromoform. Compliance is based on the total.